Anatomy of a logic game

On both the GRE and the LSAT, analytical reasoning questions appear in sets. Each set presents a distinct logic puzzle or logic game which includes three elements: (1) the premise, (2) the conditions, and (3) the questions.

**The Premise**

The premise is a brief introductory paragraph establishing the setting for the game, identifying the subjects involved, and describing generally how the subjects are related to one another. The number of subjects in a game generally ranges from four to ten (five to eight is typical).

**The Conditions**

The premise is followed by a series of rules or conditions which impose specific restrictions upon the relationships among the subjects. A logic game may include as few as two or as many as ten conditions, although the number of conditions typically ranges from four to six (the game in Example 1-1 includes four conditions).

**The Questions**

The conditions are followed by a series of questions about the relationships defined by those conditions. The questions call for deductive analysis. As in math problems, one and only one response can be proven beyond any doubt to be the correct one. The number of questions per game ranges from four to eight, although six or seven questions is most common. Examine the question stems (the questions themselves, apart from the answer choices) in Example 1-1. Notice that there are three basic types of questions:

1. Questions like #1 and #2 in Example 1-1, which require you to draw conclusions based only on the original conditions
2. Questions like #3 and #4 in Example 1-1, which add one or more restrictions to those imposed by the original conditions (NOTE: this is the most common type of question)
3. Questions like #5 in Example 1-1, which alter either the basic premise or one of the original conditions (NOTE: this is the least common type of question)

Regardless of which question type you are dealing with, EACH QUESTION MUST BE CONSIDERED SEPARATELY FROM THE OTHER QUESTIONS. In other words, any additional information provided in a question must not be carried over to other questions.

A look at a typical logic game

The sample game below (Example 1-1) is typical of the logic games you will find on the GRE and LSAT. In terms of difficulty, it would be rated as an easier-than-average game. Try answering the questions within 8 minutes, using scratch paper to take notes and draw diagrams. An analysis of the game begins on page 6.

The use of scratch paper is NOT permitted during the Analytical section(s) of the actual exam (except for the GRE CAT). However, ample space is provided at the bottom of each page for diagrams and notes.

**Example 1-1**

An amusement park roller coaster includes five cars, numbered 1 through 5 from front to back. Each car accommodates up to two riders, seated side by side. Six people—Tom, Gwen, Laurie, Mark, Paul and Jack—are riding the coaster at the same time.

Laurie is sharing a car.

Mark is not sharing a car and is seated immediately behind an empty car.

Tom is not sharing a car with either Gwen or Paul.

Gwen is riding in either the third or fourth car.

1. Which of the following must be false?
   (A) Neither Tom nor Gwen is sharing a car with another rider.
   (B) Neither Mark nor Jack is sharing a car with another rider.
   (C) Tom and Jack are each sharing a car with another rider.
   (D) Gwen and Paul are each sharing a car with another rider.
   (E) Tom and Gwen are each sharing a car with another rider.

2. Mark might be riding in which of the following cars, each considered individually?
   (A) I only
   (B) Ill only
   (C) I and II only
   (D) I and III only
   (E) I, II and III

3. If Gwen is riding immediately behind Laurie’s car and immediately ahead of Tom’s car, all of the following must be true EXCEPT:
   (A) Gwen is riding in the fourth car.
   (B) Paul is riding in the third car.
   (C) Tom is riding in the fifth car.
   (D) Laurie is riding in the third car.
   (E) The first car is empty.

4. If Paul is riding in the second car, how many different combinations of riders could be riding in the third car?
   (A) 1
   (B) 2
   (C) 3
   (D) 4
   (E) 6

5. Assume that Roger, a seventh rider, is riding with Jack in the first car, but that all other conditions remain unchanged. Which of the following is a complete and accurate list of the riders who might be riding in the fifth car?
   (A) Mark
   (B) Gwen, Paul
   (C) Tom, Laurie, Paul
   (D) Tom, Laurie, Mark
   (E) Mark, Gwen, Paul, Tom, Laurie